

POSSIBLE AFFINITIES BETWEEN VARANUS GIGANTEUS AND MEGALANIA PRISCA. *Memoirs of the Queensland Museum* 39(2):232. 1996:- Molnar (1990) described two frontals, and a parietal, of a giant Pleistocene varanid at King Creek, eastern Darling Downs. The material was assigned to *Megalania prisca*, the only varanid of comparable size. This identification is probably correct since undoubted remains of *Megalania* occur in the same deposits.

Molnar (1990) noted that the frontals and parietal of the King Creek varanid exhibited many unusual features, which could not be found in any varanid skulls examined, and were thus presumably derived within varanids. Among these features were the prominent sagittal crest along the median suture between the frontals, and the parallel transverse ridges extending at right angles to this crest. Both these features are also found in *Varanus giganteus* (Fig. 1) and are absent in other species of *Varanus* (Molnar, 1990) and in the nearest outgroup taxa, *Lanthanotus* and *Heloderma* (Rieppel, 1980; Pregill et al., 1986; Estes et al., 1988). They are thus derived within *Varanus* suggesting affinities between the King Creek varanid and *V. giganteus*. Molnar (1990) noted that, in the King Creek varanid as in *V. giganteus* (Fig. 1), the sagittal crest and parallel transverse ridges were confined to the frontals, and did not extend onto the parietals. This phylogeny is based on very incomplete material and only two characters.

Megalania prisca, *Varanus giganteus*, *V. salvadori* and *V. komodoensis* are the 4 largest known varanids (Pianka, 1995). Despite the latter two not being Australian natives, all 4 belong to a discrete radiation of Australian monitors, the 'gouldii species group' (Baverstock et al., 1993). If *Megalania prisca* has affinities with *V. giganteus* and thus belongs within the 'gouldii species group' *Megalania* will have to be synonymised with *Varanus*. Relationships within the 'gouldii species group' are not yet well established (Baverstock et al. 1993): there is a distinct possibility that, when relationships within this radiation are resolved, *V. giganteus*, *V. salvadori*, *V. komodoensis*, and *Megalania prisca* will form a clade. If so, this would mean that the four largest varanid species represent a single discrete radiation of giant predatory lizards.

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FIG. 1. Skull of *Varanus giganteus* (University Museum of Zoology, Cambridge R9586) in (A) dorsal, and (B) right laterodorsal view, showing the sagittal crest and dermal sculpture on the frontals between the orbits. Scale bar = 3cm.